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ABSTRACT

This document, which was developed for participants in a videoconference on literacy training in the workplace, contains information and resources designed to help literacy trainers improve their workplace literacy programs. Presented in the introductory section are a videoconference evaluation form, list of videoconference sponsors, and videoconference agenda. The first third of the document, which is devoted to workplace literacy issues, contains the following: facts from case studies of four successful workplace literacy programs; outline of workplace literacy issues to be addressed; statistical information regarding how much workplace literacy training is occurring; comparison of traditional and high-performance work organizations; summary of the Secretary's Commission on Achieving Necessary Skills report; and discussion of skills standards for the workplace. The second third of the document consists of a 50-item annotated bibliography of resource materials for/about workplace literacy training and a 9-item annotated bibliography of resource organizations concerned with workplace literacy. The final third of the document is an annotated bibliography of 10 electronic online resources for workplace literacy (electronic mail-based systems, gopher servers, and Internet service providers). (MN)

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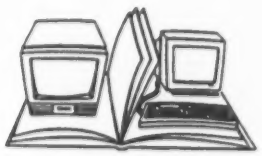
ED 397 233

WHAT WORKS?
LITERACY TRAINING IN THE WORKPLACE

APRIL 13, 1995

PARTICIPANT PACKET



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April 13, 1995

Dear Videoconference Participant:

Welcome to the videoconference *What Works? Literacy Training in the Workplace*. We are please that you have decided to participate today and certainly hope that you will find the videoconference to be of value for you, your program, and of course, your students.

This is the third in a series of staff development videoconferences brought to you through a partnership among the National Center on Adult Literacy, the PBS Adult Learning Service, the Office of Educational Research and Improvement of the U.S. Department of Education, the Office of Vocational and Adult Education of the U.S. Department of Education, the National Institute for Literacy, the American Association of Community Colleges, and WHYY-TV in Philadelphia. Each of the partners has contributed important resources to the development and implementation of this project because of our commitment to addressing the important issues of adult literacy and workplace literacy training.

The National Center on Adult Literacy is pleased to provide for you this Participant Packet. It includes useful information and resources that will enhance your participation in the videoconference and will assist you as you consider making changes in your workplace literacy program. We urge you to pay special attention to the follow-up electronic networking component of this videoconference, as this will allow you to continue the dialogue on workplace literacy issues.

At the close of the videoconference, please be sure to fill out the evaluation form that is in your packet and return it to your site coordinator. Your feedback is very important to us.

Sincerely,

Joyce Harvey-Morgan
Associate Director, NCAL

Daniel A. Wagner
Director, NCAL

What Works? Literacy Training in the Workplace

Videoconference Evaluation Form

Your comments about today's program will be greatly appreciated. Please answer all questions and return this form to your site coordinator or mail to the address at the bottom of the page:

1. On a scale of 1-5 (with 5 being the highest), rate this videoconference in terms of its overall educational value to you:

Poor				*Excellent*
1	2	3	4	5

2. Please rate each of the following sections of the videoconference in terms of its educational value to you:

   a. Presentation of workplace literacy issues

Poor				*Excellent*
1	2	3	4	5

   b. Case studies

Poor				*Excellent*
1	2	3	4	5

   c. Panel discussion

Poor				*Excellent*
1	2	3	4	5

   d. Presentation on skills standards

Poor				*Excellent*
1	2	3	4	5

   e. Question and answer periods

Poor				*Excellent*
1	2	3	4	5

3. On a scale of 1-5 (with 5 being the highest), please rate the participant packet in terms of its educational value to you:

Poor				*Excellent*
1	2	3	4	5

4. On a scale of 1-5 (with 5 being the highest), please evaluate the effectiveness of the videoconference medium as a tool for staff development:

Poor				*Excellent*
1	2	3	4	5

5. What one thing will you try to do as a result of participating in this videoconference?

6. What topics would you like to see addressed in future staff development videoconferences? (check all that apply)

❑ Workplace learning	❑ Assessment	❑ Distance education
❑ Effective teaching/teaching methods	❑ Family literacy	❑ Funding
❑ Innovative adult learning programs	❑ Learning disabilities	❑ Learning strategies
❑ Using low-end technologies	❑ Effective technology practices	❑ Prison literacy
❑ Instruction for low-level readers	❑ Retention/recruiting students	❑ Staff development
❑ Tutor training	❑ Second language learning	❑ Other _____

7. What is your current position (e.g., program administrator, instructor, tutor)? (check one)

❑ Adult Literacy Student	❑ Instructor	❑ Tutor/Volunteer	❑ Administrator/Director
❑ Counselor	❑ Trainer	❑ Professor/Faculty	❑ Other _____

8. Other comments (please use back of page if necessary):

What Works? Literacy Training in the Workplace
National Center on Adult Literacy
University of Pennsylvania
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Philadelphia, PA 19104-3111

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What Works? Literacy Training in the Workplace

Sponsors:

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U.S. Department of Education, Office of Educational Research and Improvement
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National Institute for Literacy
American Association of Community Colleges/Community College Satellite Network
WHYY-TV12

Moderator:

Claudio Sanchez, Education Correspondent, National Public Radio

Panelists:

Donna Cheatham, Continuing Education Director, PA Blue Shield
Wilma Sheffer, Director of Workforce Skills Enhancement, St. Louis Community College
Larry Mikulecky, Director, NCAL Workplace Project, Indiana University
Eunice (Nickie) Askov, Director, Institute for the Study of Adult Literacy, Penn State University

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GM North American Truck Group, Baltimore, MD
Food and Beverage Workers Union Local 32
Canteen Company, Landover, MD
United Electric Controls, Watertown, MA
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What Works? Literacy Training in the Workplace
April 13, 1995

Videoconference Agenda

Opening

Overview of Workplace Literacy Issues

Visiting Workplace Literacy Programs: Pre-Taped Case Studies & Analysis by Panel Members

- UAW/GM Skills Center, Baltimore MD
- Food & Beverage Workers Union Local 32, Washington, DC
- United Electric Controls Company, Watertown, MA
- Massachusetts High Performance Manufacturing Consortium

Call-in/Fax-in Questions

Panel Discussion

- Workplace Skills Standards
- Professional Development for Workplace Literacy Training

Call-in/Fax-in Questions

Electronic Networking: Continuing the Dialogue

Closing

What Works? Literacy Training in the Workplace

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Part A:

Workplace Literacy Issues

Workplace Literacy Programs: Case Studies

UAW/GM Skills Center
North American Truck Group (NATG), Baltimore MD

- Plant has 3,600 union and salaried employees
- Plant builds Astro and Safari minivans
- Program provides basic skills instruction
- Labor/management initiative
- Funded through labor contract

Skills Enhancement Training Program
Food & Beverage Workers Union Local 32, Washington, DC

- Union serves 2,000 cafeteria workers in Washington, DC area
- Workers employed by 13 Washington-area food service companies
- Program provides basic skills instruction
- Labor/management initiative
- Funded initially through National Workplace Literacy funds; now in transition and will be funded through labor contract

Basic Skills Training Program
United Electric Controls Company, Watertown, MA

- 350-person privately owned company
- Company manufactures temperature and pressure controls for pizza ovens, medical and transportation equipment, and other equipment
- Program provides ESL and "Learning to Learn" instruction
- Program funded initially through Massachusetts Workplace Literacy funds, now supported by company

Massachusetts High Performance Manufacturing Consortium

- Consortium consists of 13 non-competing manufacturing companies, from 15-1,500 employees, in the Boston area
- Formed to address broad range of training needs, including literacy
- Recently received U.S. Department of Labor funds to explore and expand range of possible collaborative activities

Workplace Literacy Programs
Issues to Be Addressed

Workplace literacy programs tend to focus primarily on instruction. Indeed, appropriate, quality instruction is at the core of effective workplace literacy programs, and in recent years we have learned a great deal about the importance of providing context-specific literacy instruction. Yet, too many providers focus their attention on instruction only and neglect other crucial issues. To be successful, workplace literacy training must take into account these other factors which are outlined below:

A. Company Background

- What company does—product, service
- Size
- Employee demographics
- Union or non-union operation
- Challenges faced by industry and organization
- Skill needs identified within workplace and workforce

B. Planning

Developing the Partnership

- Identify all necessary and/or appropriate partners
- Identify what needs and assets each brings to the partnership

Understanding the Customer(s) and Their Needs/Goals

- Identify the multiple customers and their needs
- Identify "invisible" customers and their needs —those that might not appear to be involved in the project, but in fact can impact its success or failure, e.g., front-line supervisors and managers
- Identify role of learners/potential learners in the process
- Identify purpose and goals as perceived by all stakeholders, determine compatibility of their goals
- Maintain communication with all customers

Understanding Organizational Issues

- Mission of the organization
- Relationship between management, union, and workers
- Organizational culture—traditional, transitional, or high performance organization?
- Role of, value placed on training, and specifically, literacy/basic skills training within the organization
- Relationship of skills to be learned to current and future jobs
- Connection between training, literacy training, and business goals
- Incentives for participation
- Assessing commitment to literacy training—Whose time? How financed?

C. Assessment and Instruction

Job Task and Skills Analysis

- Gather job descriptions, discuss job with workers and supervisors
- Collect work samples (if relevant)
- Observe workers doing job
- Identify skills needed
- Identify common problems, errors

Assessing skill level of learners
- How integrated into instruction?
- How use assessment information?

Assessing learner interest/motivation for learning
- Gauge learner interest and motivation
- Assess learner perception of potential benefits of learning

Identify clear instructional goals

Customize instructional materials to specific workplace context as required and appropriate

Prepare instructors for the workplace
- Determine appropriate type of instructor and specific instructor(s)
- Prepare instructor(s) for assignment
- Consider staff development for the workplace

D. Evaluation

Key evaluation issues:
- Extent to which proposed training program matches critical organizational training need
- Extent to which participating employees master content of program
- Extent to which mastery of training transfers and impacts positively on job performance
- Extent to which changed job performance results in benefit to organization

Develop evaluation plan upfront

Determine appropriate measures, indicators

How Much Workplace Literacy Training Is Occurring?

Number and percent of private nonagricultural establishments with formal training programs by size of establishments, 1993

Characteristic	Total	Less than 50 employees	50-249 employees	250 or more employees
All establishments (thousands)[1]	4,501	4,198	257	46
Total establishments that provided any formal training (thousands)	3,192	2,895	251	46
Percent of all establishments that provided any formal training	70.9	68.9	97.9	99.3
Percent [2] of all establishments with formal:				
Orientation training	31.8	28.5	74.9	92.5
Safety and health training	32.4	29.5	70.2	88.3
Apprenticeship training	18.9	17.5	35.6	51.1
Basic skills training	2.2	1.7	7.2	19.3
Workplace-related training	36.1	33.0	77.3	89.6
Job skills training	48.6	45.8	85.8	95.9
Other	4.1	3.6	10.5	17.1

[1] The sampling frame does not include establishments coming into existence after selection of the sample, therefore the survey estimates of the total number of establishments may differ from the population values.

[2] Respondents could choose more than one category.

Table from the Bureau of Labor Statistics Press Release: *BLS Reports on Employer-Provided Formal Training*. September 23, 1994. United States Department of Labor.

Workplace Education in Context: Comparing Traditional and High Performance Work Organizations

Traditional Organization	High Performance Organization
View of Production Process	**View of Production Process**
Emphasis on large-lot manufacturing.	Emphasis on customization.
Build inventory.	Build to order.
5-10 year period from research/product development to introduction of new product.	Shorten turn around times.
Infrequent new product introduction.	More frequent new product introduction; more product variety.
Focus on ultimate customer.	Focus on chain of customers (each worker produces for next station on line).
Scientific management approach (Taylorism): Goal is to break complex jobs into simple rote tasks which worker can repeat with machine-like efficiency.	Continuous improvement approach: Goal is to involve every member of workforce in process of improving quality, efficiency and customer satisfaction.
Emphasis on cutting costs.	Emphasis on growth in productivity.
Major mechanism for impacting productivity: add subtract hours; speed-up for more work/hr.	Major mechanism for impacting productivity: no rework for more work/hr.
	Emphasis on elimination of waste through overproduction, storage, transportation, waiting, defects, motion, unnecessary processing.
View of Work Organization	**View of Work Organization**
Chain of command hierarchy.	Participatory management style.
Multiple levels of management necessary.	Fewer layers of management.
Management functions to control workers, maintain status quo.	Management functions as "coach."
Management treats employees as "hands."	Management treats workers as "partners in prosperity," people with solutions who deserve respect.
Worker is not a whole person (check your brain at the door).	Worker is whole person (head and hands).

View of Organization (continued)	**View of Organization (continued)**
Work performed on line, by individuals working on task alone.	Work done in self-managing work cells, by individuals working in teams.
Worker's job is to follow same procedures at an established pace.	Worker's job is to continuously improve his/her part of the process in relation to the whole; to better meet needs of customer (next step in production process).
Emphasis on repetition.	Emphasis on problem-solving.
Premium on worker reliability, steadiness, willingness to follow directions.	Premium on worker inventing new ways to eliminate waste, do job more efficiently.
Workers expendable, interchangeable.	Workers respected as equals w/ managers, valued according to contributions.
Cost = driving factor, therefore workers fear that improvements will lead to elimination of jobs.	Improvement = driving factor, therefore workers rewarded for improvements.
Role of Workplace Education	**Role of Workplace Education**
Company does not have long term strategy that integrates education and training into overall business plan.	Education and training conceived as part of long term strategic plan for continuous improvement.
Company distinguishes between education and training for management and line workers.	Company puts a premium on "developing and realizing the full potential of the entire workforce."
Goals for education and training are short-term, problem-centered (let's fix it!).	Goals for education are long-range as well as short term (remedial plus).
Return on Investment (ROI) for plant is long term; for education, short term.	ROI for education is long term.
Workplace Education is preparation for action.	Workplace Education is Action.
Workplace education is remedial; focuses on filling gaps in workers ability to perform job-specific skills.	Workplace education is more than remedial; focuses on building skills for continuous improvement and flexibility (cross-training) as well as job specific skills (education model).
Presumed conflict between education and production (workers not given time release for participation).	No conflict perceived between production and education (education takes place on work time).

Development and Implementation of Workplace Education Program	**Development and Implementation of Workplace Education Program**
Top management not invested in goals and outcomes of workplace ed program.	Top management invested in setting goals and outcomes for workplace ed program.
Neither workers, supervisors, or unions involved in process of planning, implementing and evaluating workplace ed program.	Participatory planning, implementation and evaluation process involving management, workers, union (where appropriate) and educators.
Decisions on what and who to teach are based on audit of job task specific deficits.	Decisions on what and who to teach are based on company-wide continuous improvement goals and needs defined by specific work cells.
Testing is separate from instruction.	Testing is integrated into instruction.
Content of instruction tends to be narrowly job specific (split between individual as worker and learner).	Basic skills taught within framework that focuses on continuous improvement skills.
Efforts to measure outcomes tend to be (1) self-reflective (focused on educational gains) and (2) insofar as focused on performance, look at short term job-specific skill gains.	Company develops approach to measuring outcomes that focuses on impact on individual worker performance and on organizational goals.
No plans for institutionalization of program.	Company has plans not only for institutionalization but also for better integration of education into on-the-job practices.

Developed by Sondra Stein and Laura Sperazi. Taken from K. O. Haigler & S. G. Stein (1992), *Workplace Literacy Training in Modernizing Manufacturing* (ISBN 1-55877-169-7). Washington, DC: National Governors Association.

The Secretary's Commission on Achieving Necessary Skills—Summary of the SCANS Report

Since 1991, the U.S. Department of Labor has issued several reports of the Secretary's Commission on Achieving the Necessary Skills (SCANS). These documents examine the demands of high-performance workplaces and the needed levels of proficiency in different skills areas, and they highlight the implications of workplace requirements for educators, schools, and teaching practices. The SCANS commission has conducted extensive interviews with employers, trainers, and workers from various industries. The commission also studied the perspectives of schools and educators before issuing its recommendations.

The Five Workplace Competencies

To prepare workers for the workplace, the SCANS reports focus on "generic" duties or tasks (called "competencies") that workers will have to actually perform in most jobs, rather than on technical preparation for specific occupations. It places these competencies in the following categories.

Resources. Time (allocate time, and prepare and follow schedules), money (prepare budgets, make forecasts, keep records, monitor expenses), materials and facilities (acquire, store, allocate, and use materials, supplies, or space efficiently), and human resources (distribute work and schedule activities according to known tasks and assessment of people's skills).

Interpersonal. Contribute to group effort as a member of a team; teach others new skills; work to satisfy customers' expectations; communicate ideas to justify position or to persuade; responsibly challenge existing procedures and policies; negotiate exchange of resources, resolve divergent interests; and work well with men and women from diverse backgrounds.

Information. Acquire, use, organize, and maintain information; interpret and communicate information; use computers to process information.

Systems. Understand how social, organizational, and technological systems work, and operate effectively within them. Monitor performance, correct problems, and predict impacts on system operations. Suggest modifications to improve system performance.

Technology. Work with a variety of technologies. Choose procedures, tools, or equipment, including computers, and apply to tasks. Understand overall intent and proper procedures for setup, operation, maintenance, and troubleshooting of equipment, computers, and other technologies.

A Three-Part Foundation Enabling Workplace Competencies to Develop

The SCANS Commission states that students leaving a school or education program should be able to demonstrate certain foundation skills at the following level:

Basic Skills. Read and write well enough to handle records, memoranda, and correspondence without difficulty; locate, understand, and interpret written information; and communicate ideas clearly and concisely in writing, using prose and visual displays (e.g., charts) as required.

Understand mathematics well enough to make simple computations, estimate results, interpret and develop diagrams and charts, approach practical problems by choosing appropriately from a variety of mathematical techniques, work with computer programs, apply mathematics in real-world situations, and understand the role of chance in the occurrence of events.

Speak clearly and persuasively as the job requires—respond to complaints, make group presentations, and ask questions when instructions are unclear or if competing job requirements are ambiguous.

Listen carefully to understand messages, to benefit from time spent in training, and to pick up the motivations and hidden messages of customers, clients, coworkers, or supervisors.

Thinking Skills. Think creatively, make decisions (specify goals and constraints, generate alternatives, consider risks, and evaluate and choose best alternative). Recognize problems and devise and implement plans of action. Organize and process symbols, pictures, graphs, objects, and other information in the "mind's eye." Know how to learn. Reason by discovering rules or principles underlying the relationship between objects and apply these rules when solving a problem.

Personal Qualities. Display responsibility and perseverance; maintain self-esteem; display sociability, adaptability, and politeness in group settings. Assess self accurately, set personal goals, monitor progress, and exhibit self-control. Demonstrate integrity and choose ethical courses of action.

Educational Implications

The SCANS commission believes, after examining the findings of cognitive science, that the most effective way to teach skills is in context and suggests the following three principles to guide real contextual learning in all schools and programs:

- Students do not need to learn basic skills before they learn problem-solving skills. The two go together. They are not sequential, but mutually reinforcing.
- Learning should be reinforced away from mere mastery of information and toward encouraging students to recognize and solve problems.
- Foundation skills and workplace know-how cannot be taught in isolation; students need practice in the application of these skills.

If we expect learners to develop integrative skills or to function in systems (comprised of people, equipment, timelines, regulations, administrative functions, goals, etc.), we should create in the classroom the situations or simulations that require integration of skills, rather than application of isolated, single skills (as when students practice on a worksheet). This is necessary to enable learners to develop the transferable, generic skills that they will be able to apply in most jobs, regardless of their particular content. Thus, individual classroom work needs to be supplemented by increasingly more complex projects involving extended group efforts and aiming at realistic products (e.g., reports, presentations, decisions) that are more complex than brief right-or-wrong answers.

The foundation skills should be assessed along with the workplace competencies that they support. If the students can demonstrate the competency properly, they can be assumed to have the foundation they need. (Notice that the opposite is not true. Students may develop specific mathematical skills, but they may have trouble applying them to new problems.) Choosing between teaching the foundation (e.g., back to basics) and the competencies is false; students usually become more proficient faster if they learn these areas simultaneously and if learning in order *to know* is not separated from learning in order *to do*. Knowledge and its uses belong together.

Skills Standards for the Workplace

Just as there is a movement in K-12 education to develop standards about what students need to know and be able to do, there is a parallel movement to develop skills standards for the workplace as part of achieving Goals 2000. What does this mean to adult educators? What impact will it have in the future?

Skills standards are an attempt to define the specific skills needed for particular arenas as well as to define the outcomes of good instruction. By defining the outcomes, educators can plan instruction so that it leads to the achievement of those outcomes. Skills standards also help students see what they need to know and be able to do as they participate in various levels of adult education programs. If certification is tied to accomplishment of skills standards, then students have certified portable skills that they can take anywhere in the country. Employers can set job expectations for new or advancing employees based on the skills standards certificates.

The skills standards movement calls for the establishment of voluntary industry skills standards that will inform workers as well as companies about the skills requirements for various occupational clusters. The U.S. Departments of Education and Labor are currently funding industry associations and others to determine the skills needed to work in such industries as advanced manufacturing, electronics, hazardous materials, printing, and retail. Simultaneously, the Department of Labor is supporting the revision of the Dictionary of Occupational Titles through research with job incumbents and others to determine the skills needed for various jobs. All of these efforts include the identification of basic skills needed for the workplace and grow out of the original SCANS effort, which created a framework for workplace skills.

The National Institute for Literacy is also addressing the issue of skills standards in cooperation with the National Workforce Assistance Collaborative of the National Alliance of Business through a project funded by the U.S. Department of Labor. Through this project, curricula created as part of the National Workplace Literacy Program (NWLP) are being reviewed to determine the basic skills that are most frequently taught in various workplaces, especially those adopting high performance work patterns. Draft standards will be developed for those basic skills occurring most frequently—they will be anchored with examples from the curricula. Information will also be gathered on the various efforts related to setting standards for basic skills in the workplace.

How can these basic skills standards for the workplace be useful to adult educators? The NWLP curricula have been developed from literacy task analyses of diverse workplaces. If the same basic skills are taught, but in contextually different ways, these skills should have priority for instruction. These skills will be identified and described as part of the skills standards project at the National Institute for Literacy.

For more information on the Occupational Skills Standards projects, contact:
Skills Standards Team, U.S. Department of Labor
(202) 208-7018 or (202) 219-8660

For more information on the Workplace Literacy Skills Standards Project, contact:

Eunice Askov
National Institute for Literacy
202-632-1500
or
Institute for the Study of Adult Literacy
Penn State University

Part B:

Workplace Literacy Resources

Annotated Bibliography of Selected Resources for Workplace Literacy

Information Analysis/Synthesis

Delker, P. V. (1990, January). *Basic Skills Education in Business and Industry: Factors for Success or Failure. Contractor Report*. Washington, DC: Office of Technology Assessment. (ERIC Document Reproduction Service No. ED 337 587)

Developed as a background paper for OTA's report, *Worker Training: Competing in the New International Economy,* this review of workplace basic skills research and practice identifies factors contributing to program success or failure.

Forlizzi, L. A. (1989). *Adult Literacy in the United States Today.* University Park: Pennsylvania State University, Institute for the Study of Adult Literacy. (ERIC Document Reproduction Service No. ED 317 757)

Addresses issues related to the problem that many U.S. citizens do not have literacy skills adequate to meet their needs and ambitions. In addition to an overview of the problem, it highlights the types of literacy services and available providers.

Mikulecky, L. (1990, May). Basic Skills Impediments to Communication Between Management and Hourly Employees. *Management Communication Quarterly 3*(4).

Examines increased print communication demands in business organizations and identifies three employee needs: (a) long-term support to move from low literacy to productive skill levels, (b) basic skills training integrated with regular job training, and (c) short-term targeted training or access to redesigned documents and job performance aids.

Office of Technology Assessment. (1990). *Worker Training: Competing in the New International Economy.* Washington, DC: Government Printing Office. (ERIC Document Reproduction Service No. ED 326 622)

The chapter "Basic Skills and the Workplace," drawn largely from Paul Delker's background paper, describes workplace basic skills demands and provides an overview of workplace-oriented programs. It concludes with some implications for policy.

Secretary of Labor's Commission on Achieving the Necessary Skills (SCANS). Washington, DC: Department of Labor.
[Contact the Government Printing Office, Superintendent of Documents, Mail Stop: SSOP, Washington, DC 20402-9329, phone 202-783-3238, and indicate the order numbers listed below.]

1. *What work requires of schools.* (1991). (90 pages) Order No. 029-000-00433-1
2. *Learning a living, part 1.* (1992). (90 pages) Order No. 029-000-00439-1
3. *Learning a living, full report.* (1992). Order No. 029-000-00440-4
4. *Lo que trabajo necesita de las escuelas.* (90 pages) Order No. 029-000-00441-2
5. *Skills and tasks for jobs.* Order No. 029-000-00437-4
6. *Teaching the SCANS competencies.*(1993). Order No. 029-000-00438-2

The SCANS reports provide an overview of all skills needed in high-performance workplaces. The basic premise of SCANS is that certain competencies and foundation skills underly effective performance across all occupations. The reports are all highly readable, contain concrete examples for workplace activities, and are an excellent introduction for anyone who seeks to improve the quality of their workplace and their workforce. #1 and #2 serve as a foundation for the other reports.

Critical Perspectives

AFL-CIO Committee on the Evolution of Work. (1994, February). *The New American Workplace: A Labor Perspective* (Publication No. R-257-0594-20). Washington, DC: AFL-CIO.

Describes the old system of work organization and its failures and outlines the role unions have played historically in seeking to change that system. Articulates in detail Labor's vision of a model work system and the type of labor-management partnerships required to create and sustain such systems. Also discussed are the obstacles to such change and the role that labor unions and the AFL-CIO can play in stimulating new systems of work organization.

Commission on the Skills of the American Workforce. (1990). *America's Choice: High Skills or Low Wages!* Rochester, NY: National Center on Education and the Economy. (ERIC Document Reproduction Service No. ED 323 297)

Reports on the slow growth of U.S. productivity by examining employers' perceptions of skill shortages as well as how individuals are prepared for the workforce. Includes a series of recommendations for achieving a workplace that requires high skills.

Hull, G. (1991, November). *Hearing Other Voices: A Critical Assessment of Popular Views of Literacy and Work.* Berkeley: University of California, National Center for Research in Vocational Education. (ERIC Document Reproduction Service No. ED 338 865)

Analyzes the popular, dominant myths of literacy and work and presents alternative points of view and critical reassessments.

Jurmo, P. (1991). *Good News and Bad News about Workplace Literacy Efforts in the United States.* Keynote address presented at the Job Training Partnership Act Workplace Literacy Forum, San Antonio, Texas, May 3, 1991. (ERIC Document Reproduction Service No. ED 340 845)

Examines good news and bad news in the six areas of workplace literacy efforts: awareness, curriculum development, collaboration, staff training, research and evaluation, and funding.

MDC, Inc. (1992). *Greater Expectations - The South's Workforce is the South's Future.* Chapel Hill, NC: Author.

A quantitative and qualitative regional analysis of (a) demographic trends affecting the growth and composition of the workforce; (b) characteristics of the workforce; (c) current characteristics and projected growth of industry and occupational demand; and (d) current public and private sector initiatives and resources for training, retraining, and upgrading.

Reich, R. (1991). *The Work of Nations: Preparing Ourselves for 21st Century Capitalism.* New York: Vintage Books.

We are living through a transformation that will rearrange the politics and economics of the coming century. There will no longer be national economies, at least as we have come to understand them. Each nation's primary assets will be its citizens' skills and insights. As borders become ever more meaningless in economic terms, those citizens best positioned to thrive in the world market will be tempted to disregard national allegiance. This book describes this economic transformation, and the stark political challenge it presents.

Roberts, M., & Wozniak, R. (1994, September). *Labor's Key Role in Workplace Training* (Publication No. O-263-0994-5). Washington, DC: AFL-CIO.

This report presents a sample of union-management programs that highlight the wide range of training and education available to union members. Well-planned, innovative and carefully designed joint training, education, and employee development strategies can improve labor-management relations and workplace morale, raise productivity, and strengthen employment security and mobility for workers by equipping them with a wide range of transferable job skills. The programs in this report stand out as positive examples of union-management interaction.

Silvanik, R. A. (Ed.). (1990). *Meeting the Goal of a Literate America: The State Response. State Policy Reports.* Washington, DC: Center for Policy Research, National Governors Association. (ERIC Document Reproduction Service No. ED 339 921)

Contains 10 articles, written by national and state leaders in the adult literacy field, that pose challenges confronting the adult literacy system. Several of the articles (for example, "Nine Points About Organized Labor's Participation in the State Workplace Literacy Initiatives" by Sarmiento) have implications for workplace literacy.

U.S. Departments of Education and Labor. (1988). *The Bottom Line: Basic Skills in the Workplace.* Washington DC: Department of Labor, Office of Public Information, Employment and Training Administration.

Research: Literacy Requirements of the Workplace

Carnevale, A. P., Gainer, L. J., & Meltzer, A. S. (1990). *Workplace Basics: The Essential Skills Employers Want.* San Francisco: Jossey-Bass. (ERIC Document Reproduction Service No. ED 319 979)

A study conducted by the American Society for Training and Development (ASTD) with funding from the U.S. Department of Labor (DOL) that responded to the question: What do employers want? This book provides an in-depth understanding of a comprehensive list of 16 skills that employers believe are workplace basics.

Haigler, K. O., & Stein, S. G. (1992). *Workplace Literacy Training in Modernizing Manufacturing Environments* (ISBN 1-55877-169-7). Washington, DC: National Governors' Association.

This report is an attempt to refine and extend the discussion of the connection between the "globally competitive workforce" and the skills needed by a "globally competitive" worker. Specific examples are drawn from companies in which such debates are matters of economic survival, not academic exercises. The case studies demonstrate that workplace education programs that support modernization efforts are dynamic, not static. While initial program goals may mirror those of more traditional, school-based approaches, over time programs tend to be more driven by the modernization strategies themselves and learning tends to reflect the vocabulary and skills used on the job.

Passmore, D. L., Garcia T., Silvis, B. L., & Mohamed, D. A. (1990). *Requirements for Workplace Literacy: An Interindustry Model.* University Park: University of Pennsylvania, Department of Vocational and Industrial Education. (ERIC Document Reproduction Service No. ED 327 643)

Demonstrates analytical methods for relating the production and consumption of goods and services in an economy to the requirements for literacy among its workers. Uses an economic model developed by Economist Wassily Leontief, called the interindustry model, to expose the links between production, consumption, employment, and literacy.

Perkins, D. N., & Solomon, G. (1989). Are Cognitive Skills Context-Bound? *Educational Researcher, 18,* 16-25.

Provides an historical overview of the two camps of instructional theory: specialized domain knowledge and general strategic knowledge. The authors suggest that there is an important interaction between both types of instruction that leads to effective results.

Research: Program Development and Implementation

Bassi, L. J. (1992). *Smart Workers, Smart Work - A Survey of Small Businesses on Workplace Education and Reorganization of Work.* Washington, DC: The Southport Institute for Policy Analysis.

A survey of 72 small businesses focusing on their plans for making changes or implementation of changes in the area of workplace education and work reorganization.

Gowen, S. G. (1992). *The Politics of Workplace Literacy: A Case Study.* New York: Teachers College Press.

This ethnographic study, based on the author's dissertation, uses worker perspectives to examine the effectiveness of a functional context approach to workplace literacy training. Proposes adopting a model that would acknowledge differences in perspectives about the purposes of workplace literacy and incorporate legitimate employee needs and concerns into the curriculum.

Kutner, M., Sherman, R. Z., Webb, L., & Fisher, C. J. (1991, May). *A Review of the National Workplace Literacy Program* . Washington, DC: Pelavin Associates. (ERIC Document Reproduction Service No. ED 333 199)

Reports on the results of a study of projects funded during the first year of operation of the National Workplace Literacy Program. A review of research literature, analysis of data from 29 sites, and site visits to six projects provided data for the study. Includes recommendations to improve program effectiveness.

Mikulecky, L., & Lloyd, P. (1992, July). *Evaluating the Impact of Workplace Literacy Programs. Results and Instruments from the NCAL Workplace Literacy Impact Project.* Bloomington: Indiana University Bloomington, School of Education. (ERIC Document Reproduction Service No. ED 348 579)

Reports on the results of a National Center on Adult Literacy study designed to develop an impact assessment model for workplace literacy programs and to produce data on the impact of programs at two sites. A secondary goal was to refine the model for use at other sites. In addition to the model, the report includes sample forms and instructions for custom designing evaluation materials.

Mikulecky, L., & Lloyd, P. (1993, March). *The Impact of Workplace Literacy Programs: A New Model for Evaluating the Impact of Workplace Literacy Programs* (TR93-02). Philadelphia: University of Pennsylvania, National Center on Adult Literacy.

Examines parallel studies of two workplace literacy programs in order to (a) develop an impact assessment model for workplace literacy programs and (b) produce data on the impact of the two quite different programs in the areas of learner gains, workplace improvements, and literacy-related changes in learners' families.

Research: Other

Chisman, F. (1992). *The Missing Link: Workplace Education in Small Business.* Washington, DC: The Southport Institute for Policy Analysis.

Details the results of a 2-year study designed to reveal what small businesses are doing to upgrade their workers' basic skills and the factors and barriers that account for their action or inaction in this area. Data were collected through a combination of mail and telephone surveys of small and medium-sized firms and case studies.

Hirsch, D., & Wagner, D. A. (Eds.). (1993, September). *What Makes Workers Learn: The Role of Incentives in Workplace Education and Training* (IP93-03). Philadelphia: University of Pennsylvania, National Center on Adult Literacy.

Contributes up-to-date international information on how to enhance worker satisfaction and productivity through training and education programs and suggests that effective adult learning programs must be a genuinely collaborative activity between employer and employee.

Kaplan, D., & Venezky, R. L. (1993, September). *What Can Employers Assume About the Literacy Skills of GED Graduates?* (TR93-05). Philadelphia: University of Pennsylvania, National Center on Adult Literacy.

A subsample of 1,012 young adults, ranging in age from 21 to 25 years, was selected from the Young Adult Literacy Survey and extensively studied. The results show that relatively large and reliable differences in literacy skills exist between those who obtain a GED diploma and those who drop out of high school and do not study for or pass the GED Tests.

Merrifield, J., Norris, L, & White. L. (1991). *"I'm Not a Quitter!" Job Training and Basic Education for Women Textile Workers.* Knoxville: University of Tennessee, Center for Literacy Studies. (ERIC Document Reproduction Service No. ED 343 012)

A case history of one group of women workers who, after losing their jobs in 1988 when a major apparel manufacturer closed a plant, took part in some aspect of the Job Training Partnership Act training program following the closing. Includes a series of recommendations.

Wikelund, K. R. (1993, November). *Motivations for Learning: Voices of Women Welfare Reform Participants* (TR93-10). Philadelphia: University of Pennsylvania, National Center on Adult Literacy.

Documents the experiences of a group of female welfare recipients (who have been required to "go back to school" as part of the national welfare reform movement) and identifies self-esteem and perceived opportunity structure as motivational keys for participation in adult literacy education and training.

Evaluation and Assessment

Askov, E. N. (1993). Approaches to Assessment in Workplace Literacy Programs: Meeting the Needs of All the Clients. *Journal of Reading, 36*(7).

Describes how to include the perspectives of all stakeholders (learners, union partners, management, provider organizations) in assessment of workplace literacy programs. Also describes other considerations for the instructor.

Jurmo, P. (1992, March). *A Team Approach to Evaluation and Planning: A Handbook for Workplace Educators in a Changing World. Pilot Edition.* Jersey City, NJ: Literacy Partnerships.

This handbook proposes a collaborative, team approach to evaluating workplace literacy programs with the goal of enabling programs to accomplish two important objectives: (a) getting information that they need to improve themselves and gain support from sources of funding and other resources and (b) establishing a planning and communication vehicle through which the host institution can transform itself into a high-performance work organization.

Jurmo, P. (1993). *Who Wants What Information—and How Do We Get It? Issues in Workplace Education Evaluation.* Jersey City, NJ: Literacy Partnerships. [Available through DAEL Clearinghouse: BI-50]

Guide to the presentation made at the Texas Workforce Literacy Conference in May 1993, Dallas, TX. In easy to understand language, reviews the following topics: who wants to know what for what purpose in workplace literacy evaluations, what are the goals of workplace education and the indicators of progress toward these goals, and what we can do to improve how we use workplace literacy evaluations.

Manly, D. (1993). *Workplace Education Evaluation Design Checklist*. Madison, WI: Center on Education and Work, University of Wisconsin.

An excellent tool to aid in developing, evaluating, and enhancing workplace education. The checklist may be used to determine the nature of recommended program components, program effectiveness measures, and tools for use in the evaluation process. Author suggests that checklist be completed by all members of the evaluation team, including management, labor, and education.

Philippi, J. W. (1992). *How Do You Know If It's Working? Evaluating the Effectiveness of Workplace Literacy Programs.* Springfield, VA: Performance Plus Learning Consultants, Inc. [Available through DAEL Clearinghouse: BI-44]

Examines the underlying reasons for the existence of this new field of workplace literacy. Includes: Why literacy programs are in the workplace, the relationship between training in literacy skills and performance of job tasks, the purposes of program evaluation, defining evaluation, and evaluation strategies.

Sticht, T. (1991, April). *Evaluating National Workplace Literacy Programs.* El Cajon, CA: Applied Behavioral and Cognitive Sciences, Inc. (ERIC Document Reproduction Service No. ED 334 431)

A discussion of evaluation aimed at helping workplace literacy programs meet the requirements of the rules and regulations governing the National Workplace Literacy Program. The process outlined should also help program operators more effectively design, develop, implement, operate, and improve workplace literacy programs.

Guidelines for Program Development

Askov, E. N., & Van Horn, B. H. (1993). Adult Education and Workplace Literacy: Designing Customized Basic Skills Instruction. *Adult Basic Education, 3*(2).

This article provides suggestions for adult educators that can be used in designing customized basic skills instruction using work-related reading materials.

Carnevale, A. P., Gainer, L. J., & Meltzer, A. S. (1990). *Workplace Basics Training Manual.* San Francisco: Jossey-Bass.

Produced as a part of the American Society for Training and Development-Department of Labor study, this manual includes step-by-step instructions for establishing and implementing a program to teach the basic skills necessary in the workplace, using the applied approach that links learning to improved job performance. Seven steps of program development are contained in the guide, which is filled with sample forms and checklists and includes lists of recommended readings.

Mikulecky, L., Henard, D., & Lloyd, P. (1992). *A Guidebook for Developing Workplace Literacy Programs.* Indianapolis: Indiana Government Center, Office of Workforce Development; Bloomington: Indiana University, School of Education. (ERIC Document Reproduction Service No. ED 348 580)

Based on the experiences of Indiana's Model Workplace Literacy Program, this guide presents a strategy for developing workplace literacy training programs for state employees. It includes descriptions and samples of assessment methods, task analyses, instructional courses and materials, recruitment strategies, evaluation tools, and tips for effective program operation.

Philippi, J. (1991). *Literacy at Work: The Workbook for Program Developers.* New York: Simon and Schuster.

Offers detailed instructions for building a workplace education program to meet the literacy skill application training needs of employers and employees. The book includes a step-by-step demonstration of procedures and techniques and a variety of exercises designed to help the program developer create a useful plan for implementing a workplace program.

Rush T., Moe, A., & Storlie, R. (1986). *Occupational Literacy.* Newark, DE: International Reading Association.

Provides an overview of the types of reading, writing, and oral language adults face during training and on the job for ten different occupations: account clerk, auto mechanic, draftsman, electrician, heating/air conditioning mechanic, licensed practical nurse, machine tool operator, secretary, and welder.

Sarmiento, A., & Kay, A. (1990). *Worker-Centered Learning: A Union Guide to Workplace Literacy.* Washington, DC: Human Resource Development Institute, AFL-CIO. (ERIC Document Reproduction Service No. ED 338 863)

This guide describes several union-sponsored workplace education programs and how a union can plan and operate a worker-centered literacy program. Includes information on outside funding sources, useful books and articles, and a listing of the labor organizations whose programs are mentioned in the guide.

Taylor, M. C., Lewe, G. R., & Draper, J. A. *Basic Skills for the Workplace.* Toronto: Culture Concepts, 1991. (ERIC Document Reproduction Service No. ED 333 180)

A practitioner's guide to developing literacy training programs for workers that contains 28 chapters divided into four parts: understanding the need for workplace literacy, identifying workplace training needs, examples of practice in workplace basic skills training, and discovering approaches for program development.

U.S. Department of Education. (1992, November). *Workplace Education: Voices From the Field.* Washington, DC: Division of Adult Education and Literacy, Office of Vocational and Adult Education.

These proceedings of the National Workplace Literacy Program Project Directors Meeting held in September 1991 contain project directors' insights about workplace literacy program development in a number of areas, including partnership development, curriculum development, recruitment, staff development, and assessment and evaluation.

Program Descriptions

Barnett, L. (Ed.). (1991). *Rural Workplace Literacy: Community College Partnerships.* Washington, DC: American Association of Community and Junior Colleges. (ERIC Document Reproduction Service No. ED 338 300)

Contains descriptions of 10 grants funded as a part of the American Association of Community and Junior Colleges' national workplace literacy demonstration project, designed to raise awareness of the link between local economic development and basic workplace skill performance and to stimulate a local leadership initiative around a community-wide effort to raise worker performance levels.

Chisman, F. P., et al. (1992). *Ahead of the Curve: Basic Skills Programs in Four Exceptional Firms.* Washington DC: The Southport Institute for Policy Analysis.

Radencich, M. C. (1994). *Adult Literacy: A Compendium of Articles from the Journal of Reading* (Technology: pp. 163-200. Workplace Literacy: pp. 261-281). Newark, DE: International Reading Association.

This book is a collection of over 50 *Journal of Reading* articles from 1975 to 1994 which address adult literacy. Two sections of the collection of special interest are *Technology*, and *Workplace Literacy.* Articles in the workplace literacy section include program descriptions as well as advice on setting up programs and custom-designing instruction.

U.S. Department of Education. (1992, May). *Workplace Literacy: Reshaping the American Workforce.* Washington, DC: Division of Adult Education and Literacy, Office of Vocational and Adult Education. (ERIC Document Reproduction Service No. ED 347 354)

Traces the National Workplace Literacy Program as it has been implemented over the first three funding cycles, identifies best practices, and discusses common barriers to success. Descriptions of five projects considered to be exemplary are included.

Databases, Resource Directories

Imel, S., & Kerka, S. (1992). *Workplace literacy: A guide to the literature and resources.* Columbus, OH: ERIC Clearinghouse on Adult, Career, and Vocational Education.

A thorough guide to resources in workplace literacy. Provides an overview of issues and trends related to workplace literacy; hints for locating resources, references, and materials; annotated bibliography of resources and references; resource organizations; and ERIC information. Also includes ERIC Document numbers of National Workplace Literacy Programs funded during the first three cycles.

Carman, P., & Askov, E. N. *Workplace Literacy: An Annotated Bibliography of Print Resources*. University Park, PA: Pennsylvania State University, Institute for the Study of Adult Literacy.

This bibliography is designed as a resource for service providers and small and mid-sized companies seeking assistance on all aspects of workplace literacy programs. It contains over 320 annotated entries listed in the style suggested by the American Psychological Association (APA).

Hopey, C., Rethemeyer, R. K., Schneier, J., Donohoe, A., & Ciggs, C. (draft). *NCAL Software Database: Introduction, Information, and Indices*. Philadelphia: University of Pennsylvania, National Center on Adult Literacy.

Literacy Technology Laboratory. (1994). *National Center on Adult Literacy Software Database* (Internet Gopher version 2.0). Philadelphia: University of Pennsylvania, National Center on Adult Literacy. Available Gopher: litserver.literacy.upenn.edu. Directory: F. Adult Literacy Commercial Software Database/C. Diskette file: Diskette Database.

Literacy Technology Laboratory. (1994). National Center on Adult Literacy Software Database (Version 1.0 & 2.0) [Computer Program]. Philadelphia: University of Pennsylvania, National Center on Adult Literacy [Producer and Distributor].

The Literacy Technology Laboratory (LTL) at the National Center on Adult Literacy (NCAL) has compiled a database of adult literacy software products. This document is available as a hardcopy or on disk as a stand-alone program which will run on computers using the Microsoft Windows™ or Apple Macintosh™ operating system. A fully searchable version of the technology database is available through NCAL's Internet Gopher server. From this Gopher, you may also recover free demonstration copies of some of the software listed in this document.

The software included in this database was donated by vendors. Inclusion in this database does not constitute an endorsement by NCAL, nor do we claim to have compiled a comprehensive list of all adult literacy software available commercially. Our purpose is to make information about adult literacy software more readily available to those working in the field.

Selected Organizational Resources for Workplace Literacy

NATIONAL CENTER ON ADULT LITERACY (NCAL)

The National Center on Adult Literacy (NCAL) provides leadership for research and development in the field of adult literacy.

NCAL's mission is three-fold:
- to enhance the knowledge base about adult literacy
- to improve the quality of research and development in the field, and
- to ensure a strong, two-way relationship between research and practice.

Through applied research and development, NCAL seeks to improve the quality of adult literacy programs and services on a nationwide basis. NCAL's research and development goals revolve around four central themes: (a) to better understand literacy (reading, writing, and math) within a variety of life situations, including family, work and community; (b) to describe for practitioners and policymakers the multiple paths an adult might take to become more literate; (c) to better understand the adult learning process and the most effective instruction in different situations; and (d) to develop more powerful tools for better decision-making.

NCAL has a major R & D project on Workplace Literacy. In addition, several international comparative studies have been done that address workplace issues.

Dissemination of NCAL's research results and their implications occurs through many different avenues. The Center's publications, which include research reports, practitioner guides, policy/practice briefs, and a newsletter, are available in print, on disk, and through the Internet.

NCAL provides information to adult literacy practitioners, literacy resource centers, federal, state, and local policymakers, researchers, educational institutions, libraries, and industry.

Contact Information:
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NATIONAL INSTITUTE FOR LITERACY (NIFL)

The National Institute for Literacy (NIFL) is an independent agency established by Congress in 1991 to serve as the nation's focal point for enhancing the literacy skills necessary for all Americans to contribute fully to society by achieving their potential in their jobs, families, and communities.

Activities of NIFL include the following: (a) developing and disseminating information about effective literacy methods, including collaborating with state and local education agencies, academic institutions, public and private nonprofit agencies, and community-based organizations; (b) coordinating and supporting research; (c) assisting federal agencies in setting specific policy strategies for meeting national goals related to literacy, including education reform, employment and training, welfare reform, and crime control; (d) providing technical assistance, policy analysis, and program evaluation to literacy providers, including the establishment of a national database; and (e) providing a toll-free national hotline for prospective tutors and students.

NIFL is a unique collaborative effort between three federal agencies. It is administered jointly by the Secretaries of Education, Labor, and Health and Human Services. The nonpartisan Advisory Board, which is appointed by the President and confirmed by the Senate, includes nationally recognized leaders in family literacy and volunteer literacy programs, as well as representatives of academic and non-profit institutions, adult learners, businesses, private foundations, and state and local government.

Contact Information:
Andy Hartman, Director
National Institute for Literacy
800 Connecticut Avenue, NW, Suite 200
Washington, DC 20006
Phone: (202) 632-1500
Fax: (202) 632-1512

NATIONAL WORKPLACE LITERACY PROGRAM (NWLP)

Begun in 1988 and modified by the National Literacy Act of 1991, the program provides grants for projects to improve the productivity of the workforce through improvement of literacy skills needed in the workplace. A required element is partnerships between businesses, industries, labor unions or private industry councils, and educational organizations.

Contact Information:
U.S. Department of Education
National Workplace Literacy Program
Office of Vocational and Adult Education
Division of National Programs
400 Maryland Avenue, SW
Washington, DC 20202-7240
Phone: (202) 205-9872

INSTITUTE FOR THE STUDY OF ADULT LITERACY

The Institute's mission is threefold: (a) Research and development related to all aspects of adult literacy; (b) Professional development of staff and tutors; (c) Leadership at the state and national levels. The Institute is not a service provider but works with service providers of all types in its projects. The Institute's research and development efforts have resulted in computer- and print-based products that are available from the Institute and commercially. Its specialties are workplace/workforce literacy, family literacy, technology, special needs populations and community literacy.

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NATIONAL WORKFORCE ASSISTANCE COLLABORATIVE (NWAC)

The National Workforce Assistance Collaborative builds the capacity of the service providers working with small and mid-sized companies in order to help businesses adopt high-performance work practices, become more competitive, and ultimately advance the well-

being of their employees. The Collaborative was created with a $650,000 cooperative agreement grant from the U.S. Department of Labor to the National Alliance of Business. Current partners on the project include the Council for Adult and Experiential Learning, the Institute for the Study of Adult Literacy at Pennsylvania State University, the Maryland Center for Quality and Productivity, and the National Labor-Management Association. The Collaborative provides assistance in four areas: employee training, labor-management relations, work restructuring, and workplace literacy.

The Collaborative has developed a number of products and services for small and mid-sized companies seeking workplace literacy assistance, and for workplace literacy service providers. Listed below are some of those products.

For Small and Mid-Sized Companies:

Tools to help them assess workplace literacy products and service providers:

- *Workplace Literacy Product Checklist* —A checklist companies can use to determine whether particular workplace literacy products follow best practice.
- *Workplace Literacy Interview Guide*—An interview guide companies can use to interview and select appropriate workplace literacy service providers.

For Service Providers:

Information on ways to better meet the needs of small and mid-sized companies:

- *Business Assistance Notes*—A newsletter series for service providers. The first newsletter focuses on the needs of small and mid-sized companies. New ones will be developed periodically.

For Companies and Service Providers:

Products and tools for locating resources and facilitating communication and the sharing of ideas and resources among companies and providers:

- *Resource Guide*—A listing of national membership organizations and state program offices supporting workplace and workforce changes in employee training, labor-management relations, work restructuring, and workplace literacy.
- *Workplace Literacy Bibliography*—An annotated bibliography of workplace literacy resources.

Electronic Networking

- *Electronic Forum*—A "listserv" on the Internet which enables subscribers to discuss issues and share information on meeting the needs of small and mid-sized businesses in the areas of employee training, labor-management relations, work restructuring, and workforce literacy.
- *Data Base*—A "gopher server" on the Internet which disseminates Collaborative products and connects users to other relevant databases. This server enables users to share instructional and staff training materials, research studies, bibliographies, program guides, reports, articles, and other information resources.

Contact Information:
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Fax: (202) 289-1303
TDD: (202) 289-2977

AMERICAN ASSOCIATION FOR ADULT AND CONTINUING EDUCATION (AAACE) COMMISSION ON BUSINESS, INDUSTRY, AND LABOR

Purpose:

- encourage dialog between business, industry, labor members, and educational and training service providers
- stimulate the professional development of the above groups through conference sessions, newsletter contributions, etc.
- provide leadership in policy development and legislation related to workforce improvement

Activities:

- begin an electronic communication system (LISTSERV) on workforce development issues
- track legislative activities that relate to workforce development
- encourage participation of vendors in the commission activities to enlist their support of workforce development
- consider how workforce literacy and technical training might best be integrated
- study how various services can best be delivered to small and mid-sized businesses.

Contact Information:

Commission on Business, Industry, and Labor
AAACE
1200 19th Street, NW, Suite 300
Washington, DC 20036
Phone: (202) 429-5131
Fax: (202) 223-4579

AMERICAN SOCIETY FOR TRAINING AND DEVELOPMENT (ASTD)

Conducts research, has program resources available on workplace literacy.

Contact Information:
ASTD
Institute for Workplace Literacy
1640 King Street, Box 1443
Alexandria, VA 22313-2043
Phone: (703) 683-8158

AFL-CIO HUMAN RESOURCES DEVELOPMENT INSTITUTE

Provides materials, training, and technical assistance for labor education programs.

Contact Information:
AFL-CIO Human Resources Development Institute
815 16th Street, NW
Washington, DC 20006
Phone: (202) 638-3912

ERIC CLEARINGHOUSE ON ADULT, CAREER, AND VOCATIONAL EDUCATION

Publications on the topic of workplace literacy include *Digests*, *Trends and Issues Alerts*, and semiannual news bulletin, *ERICfile*. Provides information services including searches of the ERIC database.

Contact Information:
ERIC Clearinghouse on Adult, Career, and Vocational Education
Center on Education and Training for Employment
Ohio State University
1900 Kenny Road
Columbus, OH 43210-1090
Phones: (614) 292-4353
(800) 848-4815

Part C:

Electronic On-Line Resources

Electronic Resources for Workplace Literacy

In order to facilitate continued dialogue among videoconference participants and to assist practitioners in the discovery of adult literacy resources on the Internet, we are encouraging you to participate in follow-up electronic on-line activities. Information follows on the resources available electronically that are relevant to adult literacy and on how to gain access to electronic networks and the Internet.

Below are listed several LISTSERVs and Internet Gopher servers that are relevant to literacy training in the workplace. For more information about getting connected to or using the Internet, please see the participant packet for the videoconference *Technology: New Tools for Adult Literacy* (participant packet only: $8, participant packet plus two-hour video of the videoconference: $35. To receive an order form, contact Ms. Paté Mahoney at NCAL at (215) 898-2100).

What Are E-mail LISTSERVs and How Do I Use Them?

LISTSERVs are e-mail-based systems that allow interactive communication. Unlike regular e-mail communication, which allows one-to-one communication, LISTSERVs allow one-to-many communication. To participate in a LISTSERV, one must first subscribe by sending an e-mail message to a special address with a "subscribe" statement in the body of the message.

Please note: Anyone with an Internet e-mail account can participate in a LISTSERV, including users of America Online, Delphi Internet Services, CompuServe, GEnie, OTAN, and any Freenet.

Once subscribed, users hold interactive discussions on issues by sending e-mail messages to a designated e-mail address.

When the computer receives the message, it immediately "reflects" it back to all the LISTSERV subscribers. In a few minutes, the message will appear in all the subscribers' e-mail boxes. Subscribers can then forward their responses to everyone on the LISTSERV by composing a new message and sending it to the same e-mail address. It is customary for correspondents, when referring to previous messages, to copy part of the original message in their reply so that all subscribers have a sense of the context in which the reply was generated.

If you want to stop receiving messages from a particular LISTSERV, you simply unsubscribe by following another specific set of directions (which will be included in your introductory post from the LISTSERV).

E-Mail LISTSERVs Relevant to Workplace Literacy

NWAC-L (National Workforce Assistance Collaborative Listserv)

To join the list and receive the mailings from NWAC-L:

Send a message to: LISTSERV@psuvm.psu.edu (make the subject "None")
saying: subscribe NWAC-L YourFirstName YourLastName

For example:

To: LISTSERV@psuvm.psu.edu
Subject: None
Message: subscribe NWAC-L John Doe

To submit a message to NWAC-L:
Send the mail message to: NWAC-L@psuvm.psu.edu

NWAC-L is an electronic forum designed to address issues related to the changing nature of work and the workforce, specifically issues affecting small and mid-sized businesses in the

areas of workplace literacy, employee training, work restructuring, and labor relations. This LISTSERV is an electronic forum for discussing issues, sharing information (i.e., instructional strategies and materials, research and its applications, staff training approaches, evaluation methods), and reviewing/critiquing materials produced by the National Workforce Assistance Collaborative (NWAC). This LISTSERV is also a forum for discussing the business of the AAACE Commission on Business, Industry, and Labor.

NWAC is a U.S. Department of Labor initiative established in 1993 through a cooperative agreement with the National Alliance of Business and its partners. The Collaborative is helping small and mid-sized businesses adopt high-performance work practices, become more competitive, and create and retain high skill, high wage jobs for American workers. For further information, contact Brett Bixler (BXB11@PSU.EDU) or Barbara Van Horn (BLV1@PSU.EDU). Both may be reached by phone at the Institute for the Study of Adult Literacy (814) 863-3777.

WEC-L: The Workplace Education Collaborative

To join the list and receive the mailings from WEC-L:

Send a message to: LISTSERV@netcom.com (make the subject "None")
saying: subscribe WEC-L YourEmailAddress

For example:
To: LISTSERV@netcom.com
Subject: None
Message: subscribe WEC-L janedoe@address.wpl

To submit a message to WEC-L:
Send the mail message to: WEC-L@netcom.com

"WEC-L" is an experiment in using telecommunications to link those interested in developing new forms of workplace literacy education. "WEC-L" is an electronic list managed by members of the Workplace Education Collaborative. WEC is a network of workplace educators in North America who have in recent years created models which stress active participation by all stakeholder groups in the design, implementation, and continuous improvement of workplace education programs.

These collaborative programs are designed to serve a number of interests: participants' personal growth and the quality of work life and productivity of the host organization. It is hoped that such education will also contribute to the creation of a more equitable and democratic society and economy.

This list is for members of WEC—and for others with a similar perspective on workplace education—to share ideas and information. Subscribers can use this list to strengthen their practice and to help shape policy.

Other LISTSERVs Relevant to Adult Literacy

NLA: National Literacy Alliance

To join the list and receive the mailings from NLA:

Send a message to: Majordomo@world.std.com (make the subject "None")
saying: subscribe nla

For example:
To: Majordomo@world.std.com
Subject: None
Message: subscribe nla

To submit a message to NLA:

Send the mail message to: nla@world.std.com

The National Literacy Alliance sponsors an electronic list to help advocates keep informed about national public policy issues which affect adult literacy education and adult learners. The goal of this list is to keep advocates informed about critical legislative and public policy issues so that timely, coordinated policy actions are possible. It also serves as a forum for discussion of these issues. Users are encouraged to post ideas, questions, and information once they are subscribed.

AEDNET: Nova University

To join the list and receive the mailings from AEDNET, send a message to: LISTSERV@alpha.acast.nova.edu (make the subject None), saying: subscribe AEDNET YourFirstName YourLastName

For example:

To: LISTSERV@alpha.acast.nova.edu
Subject: None
Message: subscribe AEDNET John Doe

(Note: Please put your name in place of "John Doe")

To submit a message to AEDNET, send the e-mail message to: AEDNET@alpha.acast.nova.edu

The Adult Education Network (AEDNET) is an international network of individuals interested in adult education. The network is operated through a LISTSERV that enables subscribers to share information. Researchers, practitioners, and graduate students in adult and continuing education are provided with opportunities to discuss important topics and concerns in an on-line environment.

AEDNET is operated by the Adult Education Program of the Programs for Higher Education of the Abraham S. Fischler Center for the Advancement of Education at Nova Southeastern University located in Fort Lauderdale, Florida. AEDNET activities include network-wide discussions and information exchanges on topics and queries, conferences, and special events of interest to adult and continuing educators. Also, a refereed electronic journal, *New Horizons in Adult Education*, is distributed through AEDNET.

LITERACY: NYSERNET

To join the list and receive the mailings from LITERACY, send a message to: LISTSERV@nysernet.org (make the subject None), saying: subscribe LITERACY YourFirstName YourLastName

For example:

To: LISTSERV@nysernet.org
Subject: None
Message: subscribe LITERACY John Doe

(Note: Please put your name in place of "John Doe")

To submit a message to LITERACY, send the e-mail message to: LITERACY@nysernet.org

LITERACY is a moderated general discussion group for those individuals concerned with the issues of literacy. It is hoped that the group will foster discussion by those involved in teaching adults to read and write. It is also open to anyone who is interested in the topic of literacy in general. Discussion of such topics as family literacy are welcome. The sharing of ideas, tips, helpful resources, teaching tools, and personal experiences are all to be encouraged.

The primary goal of the list is the fostering of literacy in those adults for whom English is the native language, but who, for any number of reasons, never learned to read or write. It is acknowledged that the learning of English as a second language is also considered a literacy issue, but the specific concerns of this issue are beyond the scope of this list. Of course, any general literacy discussion issues that happen to arise from the teaching of English as a second language are welcome.

What is a Gopher Server?

The Internet Gopher is software that allows the user to recover information stored on computers that are connected to the Internet. Gopher uses a series of menus to help users find information resources and then transfer those resources, whether they are software or electronic documents, to their computers. Using Gopher you can retrieve research reports, find the latest free or low-cost software, or search databases on everything from educational research publications to grant funding opportunities. Gopher may be accessed through a number of different on-line services, such as America Online and Prodigy, through community-based Internet access points called Freenets, now available in more than a dozen communities around the U.S., or through electronic networks found in some corporations, community colleges or universities.

Gopher Servers Relevant to Workplace Literacy

National Center on Adult Literacy **Address:** litserver.literacy.upenn.edu

Distributes research reports, newsletters, and other information resources prepared by the National Center on Adult Literacy.

- Research reports on workplace literacy
- Research reports on other topics in adult literacy
- Archive of shareware/freeware
- Database of commercial adult literacy software
- Conference announcements
- Links to other adult literacy-oriented Gopher servers

National Workforce Assistance Collaborative (NWAC) **Address:** info.psu.edu

*Note: After you reach the Gopher Server, open "Information Servers at Penn State" to find the National Workforce Assistance Collaborative or NWAC Gopher Site.

Offers on-line access to:

- materials and products produced by NWAC
- instructional and staff training materials
- bibliographies
- articles concerning small and mid-sized businesses and the challenges they face
- research studies
- databases
- program guides
- reports

See LISTSERV section on NWAC-L for further information about NWAC.

AskERIC: Educational Resource Information Center **Address:** ericir.syr.edu

General educational information center that can be searched for adult literacy-related information. ERIC is continually being updated and revised.

- Lesson plans
- Bibliographies
- News and announcements
- ERIC digests and full length articles
- Electronic books, journals, and reference tools
- Links to other education resources and gophers

Electronic Workplace Literacy Resources: Getting Connected

Despite the growing popularity of the Internet as a telecommunications tool, finding a service provider that offers individuals or organizations access to the Internet is still not easy. There are three ways to gain access to the Internet: via a high-speed institutional (i.e., university, government, library, etc.) connection, through community-based dial-up systems generically called Freenets, or through a commercial dial-up access provider. There are literally hundreds of Freenets and commercial access providers. If you would like a full list, please order the participant packet for the first videoconference, *Technology: New Tools for Adult Literacy,* from NCAL (see page 24 for ordering information). Of the commercial services that offer individuals and organizations low-cost, modem-based access to the Internet, America Online and Delphi Internet Services are the largest. Below you will find basic information about subscribing to these services. America Online (AOL) is the recommended access provider because it offers 10 free hours of service to new users, has an easy-to-install and easy-to-use interface, and has several proprietary information resources and communications groups devoted to adult literacy.

Note: The sponsors of this videoconference neither support nor endorse the use of any of the on-line services mentioned in this document; any recommendations are for informational purposes only.

To connect to either America Online or Delphi Internet Services, you will need to have, at minimum, a personal computer and a modem (a device that allows computers to exchange data with one another via plain phone lines). If you need more information about setting up your computer to access the Internet or if any of the terms used below are unfamiliar, please order the participant packet that accompanied *Technology: New Tools for Adult Literacy* or contact the access provider that you are planning to use.

America Online
Phone: 1-800-827-6364

Subscribing

If you are not already a member of America Online (AOL), do the following:

1. If you or your program has more than one computer, decide which computer will be used to dial into America Online.
2. If you do not have them, order a modem and cable. Preferably, the modem should operate at 9,600 or 14,400 bps. However, the modem MUST be compatible with the Hayes AT command set (the modem package should say something to the effect of "Hayes Compatible" or "100% Hayes Compatible"; if you have questions, consult with the store where you plan to buy the modem).
3. If you have an IBM, find out how much random access memory (RAM) your computer has, how large the hard drive is, what type of video adapter it uses, the version of DOS you use, and (if applicable) the version of Windows used. If you have a Macintosh, determine how much RAM memory you have, how large your hard drive is, and the version of the system software you use.
4. Call America Online at 1-800-827-6364. Provide the sales representatives with the information about your computer that you collected earlier and ask them whether America Online's software will work with your system. If not, ask them what you would have to add to your computer in order to make it work properly with America Online. America Online will ship you the software necessary to subscribe to America Online in 10-14 days. If you need help with any aspect of using AOL, call the number listed above.

IMPORTANT: When you subscribe to America Online, the system will request your credit card number. America Online provides you with 10 hours of free service during the first 30 days you are subscribed to the system. When the initial 10 hours are used or after 30 days, subsequent connections to America Online will be charged to your credit card. We encourage you to monitor your on-line time carefully if you intend only to take advantage of the free time and do not intend to continue your

subscription. The sponsors of this videoconference have not purchased connection time from America Online and are not responsible for usage charges arising from participation in any of the on-line follow-up activities.

Using America Online's Internet Features

AOL's Internet features, including e-mail, the USENET bulletin board (AOL calls USENET "Newsgroups"), Gopher/WAIS databases, and FTP are located in AOL's Internet Center. You can find the Internet Center by using the "Keyword" option in the "Go To" menu. For more information on using AOL generally and AOL's Internet tools specifically, we recommend purchasing the *America Online Tour Guide* from AOL and Ventana Press.

Delphi Internet Services, Inc.
Phone: 1-800-695-4005

Subscribing

If you are not already a member of Delphi Internet Services, do the following:

1. If you or your program has more than one computer, decide which computer will be used to dial into Delphi.
2. If you do not have them, order a modem and cable. Preferably, the modem should operate at 9,600 or 14,400 bps. However, the modem MUST be compatible with the Hayes AT command set (the modem package should say something to the effect of "Hayes Compatible" or "100% Hayes Compatible"; if you have questions, consult with the store where you plan to buy the modem).
3. If your modem did not come with terminal emulation software (software that controls the modem and allows you to communicate with Delphi), you will need to purchase it from a software vendor. The most popular packages for IBM compatibles is ProComm 2.4 from DataStorm and SmartCom from Hayes Microsystems. On the Macintosh, the most popular packages are MicroPhone Pro from Software Ventures and SmartCom II from Hayes Microsystems. You will need to become familiar with the software before attempting to connect with Delphi. Specifically, become familiar with the stop bit, data bits, and parity settings in the software. The software's manual should help you sort out these settings.
4. Call Delphi at 1-800-695-4005. The sales representative will give you a user name and password, which will allow you to log into the system. Also ask the sales representative to give you the parity, data bits, and stop bit settings for your modem software.

IMPORTANT: When you subscribe to Delphi Internet Services, the system will request your credit card number. Delphi provides 5 hours of free service during the month in which you subscribe. When the initial 5 hours are used or at the end of the month in which you initiated your subscription, subsequent connections to Delphi will be charged to your credit card. We encourage you to monitor your on-line time carefully if you intend only to take advantage of the free time and do not intend to continue your subscription. The sponsors of this videoconference have not purchased connection time from Delphi Internet Services and are not responsible for usage charges arising from participation in any of the on-line follow-up activities.

Using Delphi's Internet Features

To use any Internet services, you must first register as an Internet user. Delphi charges an additional $3 per month for access to Internet tools. To register as an Internet user:

1. Log in.
2. Enter "Terms" and hit return. This will take you through the terms of use for Delphi's Internet service. Be sure to read this document before continuing.
3. Enter "Register" and hit return.
4. Enter "Exit" and hit return. This will leave you in Delphi's Internet special interest group (SIG). Entering "Exit" and hitting return a second time will return you to the main menu.